

## **REMARKS**

Applicant has carefully reviewed the Office Action mailed April 15, 2008 and offers the following remarks.

Claims 1-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,043,569 B1 to Chou et al. (hereinafter “Chou”) in view of U.S. Patent No. 7,000,052 B2 to Moon et al. (hereinafter “Moon”). Applicant respectfully traverses the rejection. To establish *prima facie* obviousness, the Patent Office must show where each and every element of the claim is taught or suggested in the combination of references. M.P.E.P. § 2143.03. If the Patent Office cannot establish obviousness, the claims are allowable.

Before addressing the rejection, Applicant provides a brief overview of the present invention. The present invention relates to adaptive interconnect logic, which is adapted to communicate with various types of modules that are plugged into the interconnect logic, and to automatically configure itself to interact with the various modules. For each module interface, the interconnect logic can take on different interface personalities for facilitating communications via the data path. Preferably, the interconnect logic will automatically configure itself to provide the appropriate layer or physical and media access control layers, to effectively communicate with computer premise equipment via the modules. The interface personality will define pin functionality, signal levels, acceptable protocols, and the like. In general, the interconnect logic provides a translator between a control and datapath system associated with the access equipment and the various modules, which need to be plugged into the access equipment.

Claim 1 recites an adaptive interconnect for providing an interface between multiple modules and a control system comprising, among other things, adaptive interconnect logic associated with a control system interface and a plurality of module interfaces, the adaptive interconnect logic adapted to:

- i) negotiate with a module over a control path via one of the plurality of module interfaces to identify an interface personality for the module;
- ii) select the interface personality based on negotiations with the module; and
- iii) apply the interface personality to the one of the plurality of module interfaces.

Independent claim 7 is directed to a method and has similar limitations as the limitations of claim 1. Thus, claim 7 is patentable for at least the same reasons as set forth below with respect to claim 1.

The combination of Chou and Moon fails to teach or suggest each and every element of claims 1 and 7. In particular, the combination of Chou and Moon does not teach or suggest adaptive interconnect logic adapted to: “i) negotiate with a module over a control path via one of the plurality of module interfaces to identify an interface personality for the module; ii) select the interface personality based on negotiations with the module; and iii) apply the interface personality to the one of the plurality of module interfaces,” as recited in claim 1. Neither Chou or Moon teaches or suggests the claimed interface personality.

The Patent Office admits that Chou does not teach or suggest selecting the interface personality, but asserts that Moon discloses this limitation in column 1, lines 50-55 (Office Action mailed April 15, 2008, pp. 4-5). Applicant respectfully disagrees. Moon simply discloses a selected configuration parameter associated with an input/output card. The configuration parameter of Moon is not equivalent to the claimed interface personality. The claimed interface personality will define pin functionality, signal levels, acceptable protocols, and the like (Specification, paragraph 0004). The claimed interface personality will provide the appropriate interconnection between the control system interface and the module via a plurality of pins, which are divided into power pins, control pins, and datapath pins (Specification, paragraph 0015). The configuration parameter of Moon does not provide the functionality of the claimed interface personality. Thus, Moon fails to disclose the claimed interface personality. Accordingly, since Moon does not teach or suggest the claimed interface personality, and the Patent Office has admitted that Chou does not teach or suggest the claimed interface personality, the combination of Chou and Moon does not teach or suggest each and every element of independent claims 1 and 7. Accordingly, claims 1 and 7 are patentable over Moon and Chou.

Moreover, Chou does not teach certain other elements as alleged by the Patent Office. For example, the Patent Office alleges that Chou teaches adaptive interconnect logic adapted to “i) negotiate with a module over a control path (see col. 3 lines 25-47, competing requests for switch resources) via one of the plurality of module interfaces to identify an interface personality for the module (see col. 6 lines 64-67, identifying a storage device storing the configuration data and sending a request for the configuration data)” (Office Action mailed April 15, 2008, p. 3).

Chou discloses an interconnect device that includes a storage device for storing configuration data associated with the interconnect device (Chou, Abstract). The communication ports of a switch will not function until configuration data such as port links, virtual lane parameters, etc. are loaded (Chou, col. 1, lines 32-36). An arbiter arbitrates between competing requests for switch resources as data packets are received at the communication ports of the switch (Chou, col. 1, lines 37-41). However, the arbitrating of the competing requests for the switch resources is not the basis for identifying an interface personality. In the claimed invention, the adaptive interconnect logic is adapted to negotiate with a module over a control path via one of the plurality of module interfaces to identify an interface personality for the module. The competing requests for switch resources in Chou are not equivalent to the claimed negotiations with a module to identify an interface personality for the module. First, Chou does not teach or suggest any negotiations with a module. Instead, Chou merely arbitrates between competing requests for switch resources. Second, the arbitration of the competing resources in Chou are not used to identify an interface personality for the module that has been the subject of the negotiations. Chou does disclose that configuration data is stored in a storage device and is requested by a configuration interface (Chou, col. 6, lines 64-66). However, the configuration data is not requested as the result of any negotiations with the module. Thus, Chou does not teach or suggest adaptive interconnect logic adapted to “negotiate with a module over a control path via one of the plurality of module interfaces to identify an interface personality for the module,” as recited by the claimed invention. As such, claims 1 and 7 are patentable for this additional reason.

Likewise, since Chou does not teach or suggest adaptive interconnect logic adapted to negotiate with a module over a control path via one of the plurality of module interfaces to identify an interface personality for the module, Chou also does not teach or suggest adaptive interconnect logic adapted to “select an interface personality based on negotiations with the module,” as recited by the claimed invention. As discussed above, Chou does not request the configuration data based on any negotiations with the module. Thus, the configuration data in Chou is not selected based on any negotiations with the module. In addition, the configuration data in Chou is also not the claimed interface personality. The claimed interface personality will define pin functionality, signal levels, acceptable protocols, and the like (Specification, paragraph 0004). The claimed interface personality will provide the appropriate interconnection

between the control system interface and the module via a plurality of pins, which are divided into power pins, control pins, and datapath pins (Specification, paragraph 0015). The configuration data of Chou does not provide the functionality of the claimed interface personality. Thus, Chou fails to disclose the claimed interface personality.

Likewise, the configuration parameter in Moon is not the claimed interface personality, for the reasons discussed above. In addition, the configuration parameter in Moon is not selected based on negotiations with the module, as recited by the claimed invention. Therefore, neither Chou nor Moon, alone or in combination, teaches or suggests adaptive interconnect logic adapted to “select an interface personality based on negotiations with the module,” as recited by the claimed invention. Claims 1 and 7 are patentable for this additional reason.

Claims 2-6 and 8-12 depend from claims 1 and 7, respectively, and contain all of the limitations of the independent claim from which they depend. Thus, claims 2-6 and 8-12 are patentable based on their dependency from claims 1 and 7.

In addition, certain dependent claims require special mention as they contain additional limitations not taught by the combination of Chou and Moon. Claims 2 and 8 recite the additional limitation of “wherein different interface personalities can be implemented simultaneously among the plurality of module interfaces.” The Patent Office alleges this limitation is taught in column 4, lines 20-25 and lines 42-46, and column 6, lines 20-28, which the Patent Office asserts discloses “providing the configuration data to the units of the switch” (Office Action mailed April 15, 2008, p. 3). Applicant respectfully disagrees. Chou does disclose that a configuration module provides configuration data to various components of the switch (Chou, col. 4, lines 20-24 and lines 42-46; and col. 6, lines 20-28). However, the cited portions of Chou do not teach or suggest that different interface personalities are implemented simultaneously among the plurality of modules, as recited in claims 2 and 8. There is no mention in the cited portions of Chou that the configuration data provided to various components of the switch is different, and there is no mention that the configuration data is implemented simultaneously. Thus, the cited portions of Chou do not teach this additional limitation of claims 2 and 8. Accordingly, claims 2 and 8 are also patentable for this additional reason.

Claim 5 recites the additional limitation that the adaptive interconnect logic is further adapted to:

- a) receive a stimulus indicative of a change in personality for the module;

- b) renegotiate with the module over the control path via one of the plurality of module interfaces to identify a new interface personality for the module;
- c) select the new interface personality based on the renegotiations with the module; and
- d) apply the new interface personality to the one of the plurality of module interfaces.

Claim 11 contains a similar limitation. Thus, claims 5 and 11 recite that the claimed adaptive interconnect logic is further adapted to renegotiate, select, and apply a new interface personality for the module when it receives a stimulus indicative of a change in personality for the module.

The Patent Office asserts that Chou teaches the limitations of claims 5 and 11 (Office Action mailed April 15, 2008, pp. 3-4). Applicant respectfully disagrees. Chou does not teach where the adaptive interconnect logic is further adapted to “receive a stimulus indicative of a change in personality for the module,” as recited in claims 5 and 11. Chou does disclose an initialization module that takes control when a reset is asserted (Chou, col. 5, lines 49-50). The initialization module queries the processor subsystem interface for configuration data until receiving an indicator associated with the end of the configuration data (Chou, col. 5, lines 57-60). Thus, the indicator in Chou is an indicator of the end of the configuration data, *i.e.*, that all of the configuration data has been received, and is not indicative of a change in personality for the module, as recited in claims 5 and 11. Accordingly, Chou does not teach or suggest where the adaptive interconnect logic is further adapted to “receive a stimulus indicative of a change in personality for the module,” as recited in claims 5 and 11. Claims 5 and 11 are therefore patentable for this additional reason.

Moreover, Chou does not teach or suggest renegotiating, selecting, and applying a new interface personality for the module when it receives a stimulus indicative of a change in personality for the module, as recited in claims 5 and 11. Chou simply discloses that when a reset of the interconnect device occurs, the configuration information is lost, and the same configuration information must be reloaded to make the interconnect device functional again (Chou, col. 4, lines 40-46). There is no mention in Chou that the reloaded configuration information is new or different. Thus, Chou does not teach or suggest renegotiating with the

module to identify and select a new interface personality to be applied for the module, as recited in claims 5 and 11. Claims 5 and 11 are therefore patentable for this additional reason.

Moon does not cure the deficiencies of Chou with respect to claims 5 and 11. Moon simply discloses that a configuration parameter may be selected for an input/output card (Moon, col. 1, lines 50-55). Moon does not disclose or suggest adaptive interconnect logic that is further adapted to "receive a stimulus indicative of a change in personality for the module," as recited in claims 5 and 11. In addition, Moon does not teach or suggest renegotiating with the module to identify and select a new interface personality to be applied for the module, as recited in claims 5 and 11.

The present application is now in condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact Applicant's representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,

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